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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,633	08/06/2003	Samuel Vinod Thamboo	839-1439	1632

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EXAMINER	
SHEEHAN, JOHN P	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,633	THAMBOO ET AL.	
	Examiner	Art Unit	
	John P. Sheehan	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6 and 7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 4, 6 and 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted known prior art disclosed in the specification in paragraphs 0004 to 0007.

The admitted known process disclosed in paragraphs 0004 to 007 of applicants' specification teaches the process steps and temperatures recited in the instant claims.

(0004) Heat Treatment A.

(0005) solution treatment at 1700-1850^{0}F
for a time commensurate with section
size, then air cool;

(0006) stabilization treatment at 1550^{0}F for
three hours, then air cool ; and

(0007) precipitation treatment at 1325^{0}F for 8hr,
then furnace cool at 100^{0}F/hr to1150^{0}F/8hr,
then air cool.

Regarding the solution treatment step, the prior art temperature overlaps the solution temperature recited in the applicants' claims; the prior art stabilization temperature and time are encompassed by the stabilization temperature and time recited in the instant claims and the prior art precipitation ageing temperature and time are the same as recited in the instant claims.

The claims and the prior art differ in that the prior art process does not teach a specific solution heat treatment time, but rather discloses that the time is commensurate to the heat treated work piece size. Further, the prior art teaches air cooling while applicants' claims recite specific cooling rates for the cooling steps.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the determination of the solution heat treatment time is disclosed by the prior art as commensurate to the size of the work piece. In view of this, and the fact that the prior art and the instantly claimed process are treating turbine rotor disks at the same temperature the prior art process solution time would be expected to be the same as the solution heat treatment time recited in the applicants' claimed process. Regarding the cooling rates, it is the Examiner's position that the prior art cools by air cooling which is considered to encompass furnace cooling in air, removing the workpiece from the treatment furnace and cooling the workpiece in quiescent air, removing the workpiece from the treatment furnace and cooling the workpiece in an air blast stream, etc. In view of this, applicants' claimed cooling rates are not considered to distinguish over the air cooling taught by the

prior art, that is, applicants have not established that the cooling rates recited in the instant claims are, in fact, any different the cooling rates achieved during air cooling.

Response to Arguments

3. Applicant's arguments filed May 9, 2006 have been fully considered but they are not persuasive.

Applicants argue that the prior art does not teach or suggest the cooling rates recited in the instant claims. Applicants' state that the Examiner has asserted, "that the breadth of the term 'air cooled' necessarily encompasses...all subsequent discoveries with respect to specific cooling rates in heat treatment processes" and the this statement is "plainly without merit or justification". The Examiner is not persuaded. Although the admitted known prior art is silent as to cooling rates, applicants have not established that the claimed cooling rates are, in fact, different from air cooling taught by the admitted known prior art. Further, the Examiner has never alleged that that "air cooling" as taught by the admitted known prior encompasses all subsequent discoveries with respect to specific cooling rates. Rather, it is the Examiner's position that the prior art cools the workpiece by air cooling which is considered to encompass furnace cooling in air, removing the workpiece from the treatment furnace and cooling the workpiece in quiescent air, removing the workpiece from the treatment furnace and cooling the workpiece in an air blast stream, etc. Applicants have not established that the cooling rates recited in the instant claims are, in fact, any different than the cooling rates achieved during air cooling as taught by the admitted known prior art.

4. Applicants argue that the prior art does not recognize that a turbine disk can be heat treated so as to have different properties at different radial locations as the result of the use of certain defined sequence of heat treatment steps and specific cooling rates. This is not persuasive. The claim limitations regarding different radial properties at different radial locations on the rotor disk have not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John P. Sheehan
Primary Examiner
Art Unit 1742

jps